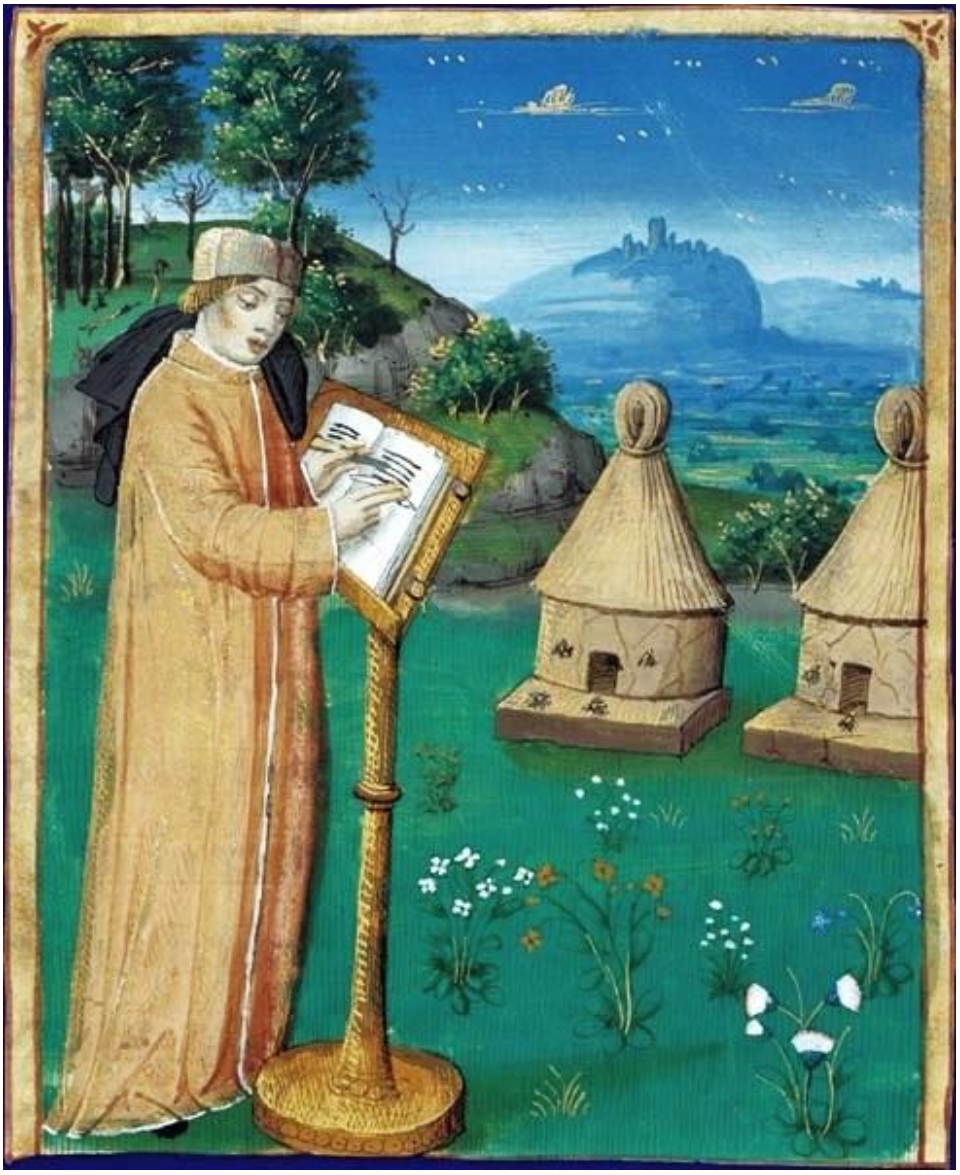

A Marvelous Scene of Little Things

Honeybees and the Natural Order in the Fourth Georgic of Virgil

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Senior Honors Thesis

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Image*: A renaissance interpretation of Virgil observing bees, from a manuscript of his complete works completed in Bruges by a follower of Willem Vrelant (illuminator); c. 1450-1475.*

National Library of the Netherlands, The Hague, KB, 76 E 21 I-III

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A Marvelous Scene of Little Things[1]

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"If little things can be compared to great,
Innate desire to work for the common wealth
Inspires the bees, and each of them has his role."

Georgics 4.176-8[2]

Virgil makes no secret that he attempts to justify the new imperial order established by Augustus Caesar in several of his works. In his *Aeneid*, Trojan ancestry, a voyage to the underworld, the great shield of Aeneas forged by Vulcan, and wars in Latium all bear elements leading inevitably to the triumph and sole rule of Augustus. In his earlier *Georgics*, however, it is not great movements led by the gods which ring in a new golden age. Instead, it is the small movements of honeybees in the hive, set at the end of a tale of pastoral prosperity and disruption which carries the weight of the new Roman world on its back.

The format of the *Georgics* is itself remarkable, containing scientific knowledge and agricultural advice in a high poetic language, blended with mysticism and legends. Here, it will be shown how the honeybees of Virgil are deeply entangled in the complexities of this poem. Ultimately, Virgil uses the honeybee to explain how disorder – shown in the *Georgics* as storms, urbanization, and plague and fresh in the minds of the readers who had recently endured many

[1] *"Admiranda tibi levium spectacula rerum" -Georgics* 4.3
[2] The translation of the *Georgics* by David Ferry is used unless otherwise noted.

years of civil war – returns to prosperity through the bees' natural order in association with the human and the divine. But first the stage must be set, and the context established.

The Organization of the Fourth Georgic

Virgil[3], known more formally by his full name of Publius Virgilius Maro, was born in 70 B.C. near Mantua in northern Italy. Mantua was a land of small farmers, and Virgil himself likely came from an equestrian landowning family, providing him with personal observations, and perhaps experience, in agriculture. The themes of his three majors works – the *Eclogues*, the *Georgics*, and the *Aeneid* – suggest that he was an intensely peace-loving man, yet he lived in an age of nearly continuous war, including the great civil wars of Julius and Octavian – later Augustus – Caesar.

Virgil's *Georgics* was immensely wide-read in the ancient world, part of the standard curriculum of a Roman student. It maintained this popularity into the Middle Ages, and is still a classic in the study of classical literature. It is a long didactic hexameter poem – that is a metric poem of six feet, the standard epic style in Classical literature, intending to convey a message to its reader.

Working from the *Vita Vergiliana* of Donatus, the *Georgics* is traditionally dated in composition from 36 to 29 B.C. The title *Georgica,* meaning "farming things" is a standard title for prose Hellenic works of agriculture (Thibodeau 2011). In this light, the first book of the *Georgics* details the cultivation of cereal grains, the second details the cultivation of vines and

[3] 'Virgil' is also written as 'Vergil' in modern English. I use the spelling Virgil out of personal preference.

trees, the third animal husbandry, and the final beekeeping. Virgil takes this genre seriously as the basis of his work, including relevant and sound advice:

Principio sedes apibus statioque petenda,	*First of all, find a protected place for the*
quo neque sit ventis aditus—nam pabula venti	*bees to make their home, a place that's safe*
ferre domum prohibent—neque oves haedique petulci	*from the wind that might prevent them from*
floribus insultent	*getting back with their food and safe from*
	the sheep or wanton kids that trample the
	flowers down.

Georgics 4.8-11

Yet what exactly Virgil intended to teach his readers has been long contested by scholars. However prominent his agronomy was intended to be, the *Georgics* are deeply entwined with other meanings. Interwoven in the agricultural dialogue are both conventional rhetorical passages and literary digressions. These can be loosely divided into scenes of natural virtue and natural destruction. Prologues invoking the gods and Octavian, a panegyric for Italy, and a description of the structure of the cosmos are traditional and optimistic. Destruction comes at the end of each of the first three books: as a great storm in book one, as the corruption of cities in book two, and as a terrible plague in Noricum[4] in book three.

Scholars sometimes formerly declared a single understanding of these insertions, "resurrection is the dominant theme of the *Georgics*" (Canter 1920).[5] This has fallen out of fashion as a medley of political, moral, and religious themes have been suggested (Griffin 1979,

[4] A federation of Celtic tribes, turned Roman province, covering what today is much of Austria.
[5] This article well illustrates the difficulty of understanding a dominant theme in the *Georgics*. "The first half of the [fourth] book certainly seems to imply that if men could be like bees they would not die" yet suddenly there is the Aristaeus/Orpheus myth illustrating just how impossible resurrection is (426).

61; Stehle 1974, 347). Only a few of the many suggested by the richness of Virgil's verse will be examined here. These are most clearly shown in the opening lines of the fourth Georgic, when Virgil sets forth his intentions,

Protinus aerii mellis caelestia dona	*Now, in its turn, I will pursue the subject*
Exsequar: hanc etiam, Maecenas, adspice	*Of honey, heaven-sent, a gift from the sky.*
partem.	*Maecenas, look with favor on this story,*
Admiranda tibi levium spectacula rerum	*Which tells about a marvelous tiny scene*
magnanimosque duces totiusque ordine gentis	*I'll in order speak of magnanimous captains,*
mores et studia et populos et proelia dicam.	*And of its entire nation, its character,*
In tenui labor; at tenuis non gloria, si quem	*Activities, its tribes, and of their battles.*
numina laeva sinunt auditque vocatus Apollo.	*The task is small, but not the glory, if*
	The powers that might oppose it will allow it,
	And if Apollo listens to my prayer.

Georgics 4.1-7

There are four themes to highlight in this invocation. Dealing with them in order, first we have honey both of the sky, *aerii*, and of the heavens, *caelestia*. This immediately invokes the divine nature of the honeybee, which later will be discussed in detail. The almost-repetitive 'sky' and 'heaven' combination appeals to the legendary knowledge that bees picked up honey from the skies and that bees themselves were heaven-sent, a legend which fills much of the second half of the fourth Georgic.

The second point is Maecenas and the scene which he is offered. Maecenas was Virgil's patron and ally and friend of Octavian. Combined with the subsequent lines on nations and battles, this marks a stark change, having more in common with the opening of the *Aeneid* than with the pastoral openings of the preceding books. The third theme, like revengeful Juno in the *Aeneid*, is that of opposition dominating the progress of the poem. Indeed, the suggestion, "if the

powers that might oppose it will allow it," is a most tenuous one, as the opposing powers in the previous books – storm, city, and plague – concluded each book in destruction of the pastoral scene.

Finally, it must not be forgotten that this work was a poem meant to entertain. It is an '*admiranda spectacula*,' an extraordinary scene which Apollo, god of arts and music, is called upon to inspire. Its deeper themes are part of the passions and wonder which Virgil uses to lead to the double catharsis in the second half of the fourth Georgic.

The epyllion[6] of Aristaeus which constitutes the second half of the fourth Georgic appears to be largely an invention of Virgil, although it includes within it the widely-known legend of Orpheus and Eurydice. Although written as a single whole, the myths of Aristaeus and of Orpheus are distinct and the rapid jumps in scene are only barely held together by the poetry. The ancient commentator on the *Georgics*, Servius, reported that this episode was a substitution for an earlier ending which praised Virgil's friend Gallus, replaced by the orders of Octavian after Gallus's suicide. Scholarship on the truth of Servius's claim, "one of the most widely discussed questions in Virgil," has generally, however, led to the conclusion that Aristaeus and Orpheus were part of the original work due to the myth's thematic unity with the rest of the *Georgics* (Segal 1966, 308-9).

This epyllion has been explored by scholars as "Vergil's deepest exploration of our relation to nature" (Nelson 1998). The attention focuses on the contrasting myths of Aristaeus and Orpheus. Orpheus is a musician whose music has the power to entrance beasts, move oak

[6] Meaning, in the literal sense, a miniaturized epic poem

trees closer to hear, and even to momentarily capture hell and stop the spinning of Ixíon's wheel.[7] Orpheus leads the dead Eurýdicé back from the underworld, but in the 'madness of love' looks back as he was commanded not to do, and loses her again, forever. Orpheus opposes nature and is stunning in his ability to go as far as he does. However, the natural order must win over, and Eurýdicé must remain dead. Aristaeus is a farmer, simpler but more attune with the natural order. He too has lost a love – his bees and laments for them to his nymph mother. Aristaeus then conquers nature, represented by the sea-god Proteus, by simple force and, through a sacrifice to the gods, receives replacement bees. In embracing the natural order, Aristaeus does not regain what is lost, but with the help of the gods receives renewal and continuation. Orpheus, for all the wonders of his civilized arts, dies in sorrow with the echoing cry, "O poor Eurýdicé!"

The Sources and Accuracy of Virgil's Fourth Georgic

Virgil explicitly stated the inspiration of his work when he says that he will dare to "sing an Ascrean poem through Roman towns" (*Georgics* 2.176). This is direct reference to Hesiod's hometown, Ascra, and his composition, the *Works and Days*, composed not long after the *Iliad* and *Odyssey* in c. 700 B.C. Virgil also seems to have drawn extensively on Lucretius's *De Rerum Natura* for his third Georgic (Gale 1991). Neither, however, lends much direct inspiration for the honeybees and myths of the fourth Georgic.

I am fortunate to have a predecessor who traced specifically the origin of Virgil's knowledge of bees, in B.G. Whitfield's *Virgil and The Bees: A Study in Ancient Apicultural Lore*

[7] King Ixíon was bound to a wheel in punishment for lusting after the goddess Hera, and was doomed to spin for eternity. Therefore, the music of Orpheus could, for a moment, stop time and all in the universe.

(1956). Many works, mentioned in Varro and Columella, have been lost which may have been sources for Virgil's material. Of those known, Varro's *Res Rustica* is used, having appeared in its final edition shortly before Virgil began his composition (Thibodeau 2011, 6). Also apparent are influences from Theophrastus's *Historia Plantarum* and Aristotle's *Historia Animalium*, the latter as seen below:

Separate detachments of bees are
told off for diverse operations; that
is, some carry flower-produce, others
carry water, others smooth and
arrange the combs.

Aristotle *HA* IX.632-5

For some the charge and obligation is
To labor in the fields; for others, the task
Is to begin to build the honeycomb,
Spreading the resinous tears of the narcissus
And gluey stuff brought in from the barks of the trees,
And building partition walls of clinging wax;
Others are charged with bringing up the young,
The nation's hope, to enter into adulthood;
Others pack purest honey into the cells
That swell and enlarge, infused with liquid nectar;
The task of others is to guard the doors,
And watch the skies for signs of clouds and rain.

Georgics 4.156-66

Virgil's own elaboration on the original is quite pronounced, adding further tasks, personification, and poetry. In general, a lack of clear source material for much of the fourth Georgic suggests that either lost works or Virgil's own experience provided much of the information used.

One inevitably wonders while reading the *Georgics* just how accurate and representative his knowledge was of Roman agriculture and the other factors, divine and mortal, that influenced the farmer's field. Such a line of thought also has bearing on accurately interpreting Virgil's message. If Virgil's advice is largely fantastic, as "clearly it makes no sense to treat the poem as

a practical handbook" (Gale 2000, *X*), then interpreting a 'natural' order by using this poem would be difficult.

Although it would be unlikely that Virgil would be of much practical use today, his contemporaries evidently thought quite highly of the material. Pliny and Columella[8] treat Virgil as a source of agricultural knowledge alongside the more traditional Roman agricultural authors of Cato and Varro. Practical Columella references Virgil more than any other agriculturalist, yet references another poetic beekeeping treatise by Nicander, of which only a fragment survives, only once (Spurr 1986, 182; Whitfield 1956, 103). Columella, at least, seems to have judged his sources independently of whether or not they were poetry.

Virgil did have one major ancient detractor, and that was Seneca the Younger. As Seneca says in an *Ad Lucilium Epistulae Morales* "ut ait Vergilius noster, qui non quid verissime, sed quid decentissime diceretur aspexit nec agricolas docere voluit, sed legentes delectare"[9] (86.15). Seneca's disdaining disagreement, however, only further suggests that popular opinion thought of Virgil as a reliable source of practical information. Most probably, Virgil fits into an agricultural spectrum. Agricultural texts had many distinct styles in the late Republic and the early Empire, from dialogues like Varro to catalogues like Pliny, and Virgil fits into the poetic extremes of this class (Doody 2007, 182-3).[10]

[8] The former in his extensive *Naturalis Historia* (c. 23-79 A.D.) and the latter in his *De re rustica* (c. 60 A.D.).
[9] In English, "as our poet Vergil, who sought not what was nearest to the truth, but what was most becoming, and intended, not to instruct the farmers, but to please the readers" from his *Moral Letters to Lucilius* c. 65 A.D.
[10] A more comprehensive study of the reception of Virgil by later audiences fills volumes, notably *Vergil in the Middle Ages* by Domenico Comparetti, *The Vergilian Tradition: The First Fifteen Hundred Years* by Jan Ziolkowski and Michael Putnam, chapter six of *Playing the Farmer: Representations of Rural Life in Vergil's Georgics* by Phillip Thibodeau, and *The Georgics of Virgil* by Patrick Wilkinson.

The Apiculture of the Roman Honeybee

The bees of Virgil have fascinated naturalists for centuries, and this led to the publication of various commentaries on the virtues of Virgil's practical advice. However, the first author to extensively incorporate them into an analysis of the fourth Georgic is Jasper Griffin in 1979.[11] He proposed that Virgil used the collective virtue of honeybees as a direct counter-point to the individual vices Virgil saw in Rome (Griffin 1979, 69). Since then, honeybees have seen an increased exposure in modern scholarship.[12] Building from this, it is my wish to highlight the centrality and particular uniqueness of the honeybee in Virgil's message of the *Georgics* by understanding the classical background of the honeybee.

Across the Mediterranean, honeybees and honey have an ancient and elevated status. Bees were of sufficient importance to be included in the title of the Pharaoh of Egypt with the hieroglyph *nswt-bit* (He of the Sedge – He of the Bee) by about 3100 B.C. Egypt is also the source of the first evidence of domesticated beekeeping, shown on a stone relief from approximately 2400 B.C (Crane 1999, 161-71). Famously, in the Old Testament, the promised land is often called a land flowing with "milk and honey" (Exodus 3:8; Numbers 14:8; Deuteronomy 31:20; Ezekiel 20:15).

[11] There is one exception, that I have seen, *The Bees of Virgil* by Haarhoff, T J (1960). However, the nature of this article, wandering as it does across space and time, seems to have provoked little later discussion.
[12] For two of the more extensive incorporations, see *God and the Land* by Nelson and *Playing the Farmer* by Thibodeau. Virgil also figures prominently in all texts on Roman beekeeping (see bibliography).

Although no illustrations remain of ancient Greek or Roman beehives,[13] there are frequent literary references and agricultural treatises about them (Crane 1983:45). Hesiod mentions bee hives in his c. 700 B.C. *Works and Days*, and in the earliest surviving reference to bees in Latin, by Varro, bees are given a more thorough treatment. It is clear from these and other works that the Greeks and Romans had extensive knowledge of apiculture (Crane 1999: 196-211). Pliny twice refers to transparent observation hives that suggest some Romans had a significant interest in studying these creatures, although he did not see these hives himself (*NH* XI.16.49 and *NH* XXI.47.80). Honeybees clearly inspired an unusual level of interest in the ancient world especially for an insect. There seems to have been quite a level of discussion on bees available for Aristotle to learn from, for he says, "on the subject of the generation of bees there is by no means a unanimity of opinion" (*HA* V.553a) and precedes to list five theories on the production of brood.

Ancient opinions included other animals as social – wasps, ants and cranes in Aristotle (*HA* I.488a), but honeybees are the first of these to come to Cicero's mind (*Off*. 1.157). Ancient authors exploring the natural order of bees in a hive frequently compare to humans, but never to other animals. Honeybees are unique in their relation to humans in the animal kingdom, and Quintilian in his *Institutio Oratoria* even went so far as to explain their higher reasoning as compensation for smaller and weaker bodies (2.16.16).

[13] Greek and Roman beehives were made of organic materials and none survive today, although some pots used for raising dormice have been misidentified as beehives in the past. The most common hives described – clay plastered woven reeds – were also probably not very inspiring material for artists to depict.

A section in Aristotle's *Historia Animalium* illustrates the educated background upon which Virgil's work was written:

> "*The comb is made from flowers; the material for sealing they fetch in from the gum of trees, the honey is what falls from the air, especially at the risings of the stars and when the rainbow descends; on the whole there is no honey before the morning rising of the Pleiad* [early May]. *The bee makes the comb, then, from flowers, as has been said, but honey it does not make; it fetches in what falls from the air, as is proved by the fact that beekeepers find the hives full of honey within one or two days. Again, flowers appear in autumn, but honey does not once what is in the hive has been taken off: if the bees made the honey out of flowers, we should find more honey appearing in the hives after the original supply has been taken off and no nourishment (or very little) remained there."*
>
> -*HA* V.553b-554.c[14]

The *Historia Animalium*, which parallels in the *Georgics* show Virgil had referenced, contained a thorough investigation of honeybee biology (*HA* V) and management (*HA* IX). The passage above, in particular, is inaccurate. All people today will be aware that honey comes not from the sky but from flowers. The likely reason for Aristotle's conclusions was that flowers, especially in the Mediterranean climate, would not bear significant nectar until after rain, thus Aristotle was drawing the wrong conclusions from a correct correlation.

It is also clear from this passage that others believed honey did come from flowers, in that Aristotle argued repeatedly against that point. It is not the inaccuracy of the passage that is suggestive, but that even with errors, the educated tied the honeybee's actions strongly into natural cycles and ecosystems. For the most part, beekeeping knowledge, if not always the

[14] Translated by A.I. Peck in the Loeb *Historia Animalium*, here and for all references of the *HA*.

underlying biology, was quite sound. From the point of view of Thomas Royds, writing in 1914, and familiar with traditional beekeeping, the majority of the beekeeping passages in Virgil "contain practical precepts of the highest excellence…still golden rules for every bee-keeper" (Royds 1914, 58).

Many facets made bees intriguing for ancient moralists. Bees are repulsed by strong smells, and would even attack strongly perfumed individuals (Columella *De re rustica* 9.14). They did not land on food that had gone bad, like a fly would (*HA* V.535b). Honeybees only dropped excrement far outside the hive (Pliny *NH* 11.72). The king bee [queen bee] possesses a stinger but does not use it in its adult life (*HA.* IX.626a). Bees were also generally believed to abstain from sexual intercourse (*HA* V.533a; *Georgics* 4.197) and were commonly believed to be aggressive towards men who had been with women (Plutarch *Coniugalia Praecepta* 44). This seems to have made some moralizing tone irresistible to all writers, except perhaps Columella who states that such things are above the practical interest of farmers (*De re rustica* 9.2.5). References in less scientific literature, such as those in Plutarch paralleling those in Greek mythology (Cook 1895), suggest honey bees were perceived throughout Roman society as an unusually moral and upright creature.

Although many Roman authors participated in a consensus that honeybees had remarkable parallels to their own human society, each author highlighted slightly different characteristics. Varro simply characterized the bees as possessing king, power, and society (*Res rustica* 3.16.6). Pliny went much further, adding camp guards and the performance of funerals and rituals (*NH* 11.10-16). Virgil is the only one who mentions, indeed over-emphasizes, the role of the beekeeper in removing bees, particularly 'kings,' who do not have the same standards of

other bees (*Georgics* 4.88-9; 4.105-6).[15] One similarity between the Latin authors has been noted by Morley: a particular fondness for militaristic portrayals and comparisons of hives to military camps (Morley 2007, 466). He suggests this was a natural interpretation for these authors to make, and indeed the loud noise, bustling order, and ferocious defense associated with hives do bear a strong resemblance to a legion's camp. This pattern, however, encompasses only part of the overall social discussion, and in general there is a lack of a single, cohesive parallel between Roman and honeybee society. This suggests that each author was producing somewhat unique comparisons, and that Virgil's vision of a natural order is not dependent so much on cultural preconceptions as it is part of his own overall themes in the *Georgics*.

What is conspicuously missing from this discussion in Greek and Roman texts is a close divine association with honeybees. Varro, in his *Res rustica*, amid his discussion which focuses on high-profit apiaries for estates – *melitrophia* and *mellaria* – includes only the briefest mention of a divine association with bees, "they are with good reason called the winged attendants of the Muses" which he attributes to their response to crashing cymbals (*Rust.* III.16.7).[16]

A hint of divinity does come elsewhere in Latin texts. When explaining the foolishness of consul Gaius Flaminius for not listening to his augers,[17] Cicero described several other prophetic signs correctly interpreted by experts and since proven correct. "Again, while Plato was an

[15] Virgil's extortion to quash the other king bee, ignoble as he is after battle, certainly is a reflection on Mark Antony after the Battle of Actium that occurred during the writing of the *Georgics*. *cf.* The ability of bees to manage themselves and to promote their own common good in Pliny (*NH* 11.11-12).
[16] The use of cymbals, ringing of bells, and other methods of creating as much noise as possible was suggested by ancient authors to induce a flying swarm of honeybees to settle, and so be caught and put into a hive. This practice continued into modern America, although there has been no evidence to suggest it has any particular effect, and swarms land quickly regardless (see 'Gleanings in Bee Culture' v. 88, 1960, pg 536).
[17] A parallel to the more famous story of the consul Publius Claudius Pulcher; in both situations, prophetic chickens refused to eat before battle, but this bad omen was ignored and the battle lost.

infant, asleep in his cradle, bees settled on his lips and this was interpreted to mean that he would have a rare sweetness of speech" (Div. 1.78). The same story is told by Plato of the god Love, and Pindar and Menander also received similar signs at birth (Douglas 1928, 180). However, the bee is no special messenger, but only an analogy for the 'honeyed words' to be expected later.

Figure 1: *Coin from Ephesos, Ionia dating to between 390-325 B.C. The bee, stag, and palm tree all refer to the city's famous Temple of Artemis, the priestesses of which were called 'melissa' or 'honeybees.' The city was also known for its export of honey. Obverse: Ε-Φ, Bee with straight wings, Reverse: ΦΑΝΑΓΟΡΗΣ, Forepart of stag recumbent right, head left, palm tree to left. Image from the Museum of Fine Arts, Boston.*

It is only in Greek mythology that bees have any clear divine status. Here, they are associated with Apollo and Dionysus/Bacchus, especially on the island of Crete (Cook 1895). Artemis/Diana was also known as Melissa, 'the bee,' and through her, bees may have been sometimes thought to represent souls (Haarhoff 1960, 160). Bees and honey are among the most common motifs associated with nymphs, perhaps because the natural inhabitations of bees and nymphs aligned – caves and tree trunks (Larson 2001, 6; 25; 163). Thriai nymphs near Mount Parnassus and the Korkyian nymphs are those most closely associated with honeybees (12). The divine nature of bees, connected to nymphs, seems an older, more rural phenomenon, rarely seen in Latin texts outside of Virgil.

Interestingly, honey has received little attention in modern commentators, perhaps because ancient sources, excepting Pliny (*NH* 11.12-5), often separated discussions of honey and beekeeping. Pliny suggests a reason for its exquisite taste – the primary source of concentrated sugars in Roman times – and properties, "the result, no doubt, of its ethereal nature and origin" (*NH* 11.12). The most common use of honey is the only use that Virgil mentions, in passing, "honey that's sweet yet not only sweet but clear, just right for subduing wine that tastes too strong" (*Georgics* 4.101-2). This honeyed wine was avoided by the thrifty because honey was expensive. Honey could make a fortune for a large apiary: "these men never received less than 10,000 sesterces [per year] from their honey, on a conservative estimate" (Varro, *Rust*. III.16.1-11).

Honey is also used extensively in medicine, although this knowledge is, unsurprisingly, confined to medical texts. Honey figures prominently in the first century A.D. medical works of Dioscorides in his *De matera medica* and Celsus in his *De medicina* (Cilliers and Retief 2008). The chemical analysis of a rare find of medical tablets from the second century B.C. Pozzino shipwreck, found pollen from plants frequently visited by bees included, in addition to the primary ingredient of zinc (Giachi et al. 2013).

This survey shows that for educated and uneducated Roman alike there was a rich metaphorical world to be derived from the actions of honeybees. Honeybees embody sweetness and prosperity as well as social order and morality, two sets of attributes, interestingly, that are usually opposed in Roman thought. Such a conflict does not seem to have been an issue, most likely because honeybees' connotations, while widely known, were not nearly as popular and well-developed as much other Roman imagery.

Virgil, however, goes to great lengths to develop the imagery of the honeybee. It is possible that an attempt to hold together these opposing ideas is what resulted in Virgil's heavy use of association between bees and the divine – largely unprecedented for a Roman author. Roman gods, bringers of both order and prosperity, could bind these opposing forces in ways Roman social thought could not.

Virgil opens his section on the nature of bees with a reference to the legend that bees flew to the cave where the infant Jupiter/Zeus was hidden from Cronos and fed him there with honey (*Georgics* 4.149-52).[18] Virgil also makes nymphs and *bugonia* central to the myths of the second half of the fourth Georgic. One passage stands out from Virgil's reliance on Greek mythology:

His quidam signis atque haec exempla secuti esse apibus partem divinae mentis et haustus aetherios dixere; deum namque ire per omnes terrasque tractusque maris caelumque profundum. Hinc pecudes, armenta, viros, genus omne ferarum, quemque sibi tenues nascentem arcessere vitas; scilicet huc reddi deinde ac resoluta referri	*Because of such signs and instances,* *some say the bees have drunk from the* *light of heaven and have a share in the* *divine intelligence, for god, they say, is* *there in everything in earth and the* *range of the sea and the depth of the sky;* *the flocks, the herds, and men all derive* *their life from him, and when they die* *their life returns to him, and having been* *unmade is made again."*

Georgics 4.219-25

[18] There are many different versions of this legend with different gods, men, or animals raising Zeus. Virgil's general policy of not debating other possibilities but carrying straight on with his own contrasts with other authors like Aristotle, who – not afraid to declare his own opinion – still mention other possibilities to refute them. This is a further sign that Virgil was focused on his overall themes as much as having a practical dialogue.

This passage significantly complicates the religious tone of the fourth Georgics, and a full discussion of it is beyond the scope of this paper.[19] This is a significant promotion for bees from nurses of Jupiter to partners in the divine intelligence (*partem divinae mentis*). By bringing bees into the latest in religious thought, an invention of Virgil's own, it is clear that Virgil intends for his audience to seriously consider the religious message they carry.

Such passages have also provoked scholars into wondering whether Virgil was perhaps not as strictly aligned with Augustan political views as his dedications to Octavian and Maecenas might suggest. In the *Aeneid* and *Georgics* both, there is much turmoil and destruction before the perfect ending materializes, with which Virgil may have intended to cast doubt on the glory of the new era (Griffin 1979, 65). One such ambiguous scene is shown below:

usque adeo obnixi non cedere, dum gravis aut hos	*Fight on and lead the battle, refusing to yield,*
aut hos versa fuga victor dare terga subegit.	*Persisting till the final moment when*
Hi motus animorum atque haec certamina tanta	*The one or the other one, victorious,*
pulveris exigui iactu compressa quiescent.	*Will drive the vanquished to turn their backs and flee.*
	A little dust thrown down upon the scene
	Will quiet this contention and this fury.

Georgics 4.84-7

A 'little dust' quelling a scene which parallels the great victory of Octavian over Antony, does seem to ridicule the conquest. This may also parallel the dust ceremoniously tossed onto a fallen soldier, suggestive instead of the need for proper ceremony and decorum to bring a proper peace (Wilkinson 1978, 180). I would like to suggest another interpretation as well, that this is a

[19] Older translators such as J.B. Greenough (1900) sometimes emphasized an anachronistic Christian tone here. However, the 'rebirth' mentioned here probably was meant to look more like that seen in the *Aeneid* book VI and the following line, "the life of beings flies up to the stars" parallels contemporary philosophers like Cicero.

reference to the poem itself, with the wish that a little nature order, like that contained in the *Georgics*, can aid in quieting the disorders of the civil war.

A look at exactly what sort of 'king' bee Virgil praised might better show Virgil's position in relation to Octavian. The use of bees to further justify the rule of kings is seen elsewhere, "Nature conceived the idea of the king, as we may recognize from the case of bees and other creatures" (Sen. Clem. 1.19.2). Virgil's king is much like these other kings in appearance. The perfect king bee is shining in gold compared to his disheveled, conquered foe (*Georgics* 4.91-4). The perfect king bee, is, after all, a perfect king.[20] Given the level of investigation bees were given, combined with the many theories over the generation of bees, it is surprising that no authors in the Greek or Roman raise any doubt over the gender of the leader. It seems the idea of a natural female ruler was generally inconceivable in the classical tradition.

Comparing Virgil's king bee to the standard ideals of a king bee outlined by Overmeire, Virgil's bee has a more Augustan feel. The bees in Virgil lack the royal palace seen in other authors (Overmeire 2011, 35; *cf. Georgics* 4.153). Instead they have a shared community (*solae communes*) and a common home (*consortia tecta urbis*). While highlighting the great loyalty of the bees to their leader – they worship him, carry him upon their shoulders with a great clamor, and die for him in battle – Virgil shows they do this because he is the "guardian of their labor" (*operum custos*) who keeps the bees from tearing apart their own hive (*Georgics* 4.208-18). This parallels the imagery propagated by Octavian more directly. While Virgil's praise is too nuanced

[20] The correct gender and role of the queen bee was not known until the microscopy studies of bees by Dutch scientist Jan Swammerdam, completed in the seventeenth century and published in 1740.

to be full propaganda for Octavian, the overwhelming feeling is that the work does remain true to its stated sympathies towards the new systems of government established at that time.

The concluding myth of Aristaeus is the section of the *Georgics* which is least connected to agriculture, yet bees still play a prominent role. The basic elements of the loss and reacquisition of bees by Aristaeus are based on the combined myths of Aristaeus as the inventor of beekeeping and that of the generation of bees by *bugonia*. Aristaeus himself was reported by earlier authors as inventor of beekeeping (Apollonius *Bibl*. 4. 1128; Arist. fr. 511) and the myth seems to have taken firm root after the *Georgics*, with many authors after Virgil's time reporting it (see Harissis 2009, 2-3).

The plot revolving around *bugonia* the practice of generating bees from dead oxen is particularly unusual. While commonly mentioned by classical authors, there is little indication *bugonia* was frequently practiced. This legendary, and probably pre-historic, myth on the origin of bees is contained in Varro (*Rust*. 2.5), in Pliny (*NH* XI.23.70) and as one possible origin by Aristotle (*GA.*759).[21] Harissis suggests two factual reasons that this myth may have existed: that corpses are known to attract drone-flies (*Eristalis tenax*) which slightly resemble bees, and that wild honey bees will nest in any suitable cavity, including animal skulls if no more-suitable cavities are present (Harissis 2009, 6). For Virgil, *bugonia* adds a note of wonder to the Aristaeus myths while further cementing his association of honeybees with the divine.

The importance of this epyllion in concluding the *Georgics* has been shown before. The combination of great passions and divine wonders create not one, but two catharses (Thibodeau

[21] See Harissis pg. 6 for a very detailed listening of ancient authors for this widely-reported idea

2011, 191-201). To this, honeybees add another level of conclusion, as their appearance alone concludes the agricultural text *Georgics* followed only by a short epilogue:

Hic vero subitum ac dictu mirabile monstrum adspiciunt, liquefacta boum per viscera toto stridere apes utero et ruptis effervere costis, immensasque trahi nubes, iamque arbore summa confluere et lentis uvam demittere ramis.	*But there was a sudden, a marvelous event,* *A prodigy miraculous to tell–* *Everywhere in the bellies of the victims* *Bees bursting forth from the ruptured sides in swarms* *That drift along like enormous clouds in the sky* *And come together high in the top of a tree* *And hang in clusters from the swaying branches.*

Georgics 4.554-8

This ending contrasts sharply with the endings of the earlier books of the *Georgics*, which were disorder and destruction by storm, urbanization, and plague respectively, a contrast emphasized by the use of honeybees which connote sweetness and prosperity. The purpose of Virgil's over-emphasis on the divine nature of bees also becomes apparent. The means to the peaceful end here, a very traditional sacrifice followed to the letter of the gods' commands, is a clear assertion of the importance of such rituals which Octavian was focused on restoring. The divine and the natural order are linked, both bound up by the swaying swarms of honeybees.

Outside the Roman world, from Anglo-Saxons to Napoleon, honeybees have had a remarkable ability to bridge from natural to human and divine worlds. Even today such imagery, updated, remains in use. Research on the consensus decision-making of swarms led to the book titled *Honeybee Democracy* by T.D. Seeley which inevitably connected the natural world to business teams and to parliaments. Yet as consistently as honeybees receive distinction

throughout history, and as accalaimed as the *Georgics* were, the imagery of the honeybee never came to prominence in Roman culture outside of Virgil.

It seems Virgil may have had a personal fondness for honeybees. There are a dozen references to honeybees in the *Eclogues* and *Aeneid* as well (Whitfield 1956, 100). Virgil's knowledge of them is thorough and practical. Yet the way he depicts them is sophisticated and original. Borrowing both from scientific literature and rural folklore, Virgil shows honeybees to be creatures of natural order and prosperity. They receive this order through their own moral and hard-working behavior and a virtuous king. The upright behavior of bees had been known before, but the point Virgil really drives home is that nature is where such behavior comes from, which the gods stand directly behind.

The *Georgics* is a story of confronting calamities, which arrive three times before order finally asserts itself in the fourth Georgic, paralleling the civil wars that Rome had just endured for many years. Virgil's answer is remarkably scientific for a work of poetry, an exposition of knowledge of the natural world. Unlike the reality of science, however, be it Aristotelian or modern which is filled with useful but distracting debate, Virgil uses stories and catharses to verify his point, and deliver a powerful message on the natural order that the Roman world should follow.

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